

directly coupled to a protein at a  $\beta$ -position of a propionate moiety; wherein the N-propionated polysaccharide or N-propionated oligosaccharide directly coupled to the protein at the  $\beta$ -position of the propionate moiety elicits protective antibodies reactive against the N-propionated polysaccharide or N-propionated oligosaccharide; wherein the N-propionated polysaccharide or N-propionated oligosaccharide is de-N-acetylated and N-acryloylated at the de-N-acetylated terminus; wherein at least 50% of the N-propionated polysaccharide or oligosaccharide is de-N-acetylated; and wherein the protein is a bacterial protein or a synthetic protein containing lysine or cysteine residues.

4. (Third amendment) The conjugate according to claim 1 wherein the polysaccharide or oligosaccharide is obtained from *Escherichia coli*, *Meningococcus*, *Pneumococcus*, *Streptococcus*, *Neisseria*, *Salmonella*, *Klebsiella*, or *Pseudomonas*.

15. (Third amendment) The conjugate according to claim 1 wherein the polysaccharide or oligosaccharide is obtained from group B *Streptococcus* type III, and wherein the protein is tetanus toxoid.

16. (Third amendment) A polysaccharide-protein conjugate or oligosaccharide-protein conjugate that elicits protective antibodies reactive against the polysaccharide or oligosaccharide, wherein said conjugate is produced by a method comprising:

A) de-N-acetylating an isolated polysaccharide or oligosaccharide using a de-N-acetylating reagent to form a de-N-acetylated polysaccharide or a de-N-acetylated oligosaccharide, wherein the isolated polysaccharide or oligosaccharide is at least 50% de-N-acetylated;

B) N-acryloylating the de-N-acetylated polysaccharide or the de-N-acetylated oligosaccharide at a de-N-acetylated terminus with an acryloylating reagent to form an N-propionated polysaccharide or an N-propionated oligosaccharide, and

C) directly coupling at a  $\beta$ -position of a propionate moiety of the N-propionated polysaccharide or the N-propionated oligosaccharide to a protein to form the polysaccharide-protein conjugate or the oligosaccharide-protein conjugate; wherein the protein is a bacterial protein or a synthetic protein containing lysine or cysteine residues.

59. (Amended) The conjugate according to claim 1, wherein the de-N-acetylated polysaccharide or de-N-acetylated oligosaccharide is at least 95% N-acryloylated.

60. (Amended) The conjugate according to claim 16, wherein the de-N-acetylated